

A Shoe is no Longer "Just A Shoe"

Buying athletic shoes should be a thought out process. A

shoe is no longer "just a shoe."

Athletic footwear has become a product that specializes in specific foot anatomy as well as certain sports and activities.



When shopping for athletic shoes, it is important to buy shoes that will meet your specific needs. If considerations are not given towards the type of shoe purchased, injury can be the result.

Medical Conditions that can arise from improper shoe fit:

- Acute-onset bunion pain (caused by narrow shoes)
- Metatarsalgia or Morton's neuroma (caused by tightness across the forefoot)
- Black toe (caused by a shallow toe box)
- Hammer toe, claw toes, or overlapping 5th toe (caused by too shallow or too narrow of a shoe)

Injury prevention is what athletic shoes are all about. They can only prevent injury if the buyer is educated on what is best for their feet. Determining what type of arch you have is the first

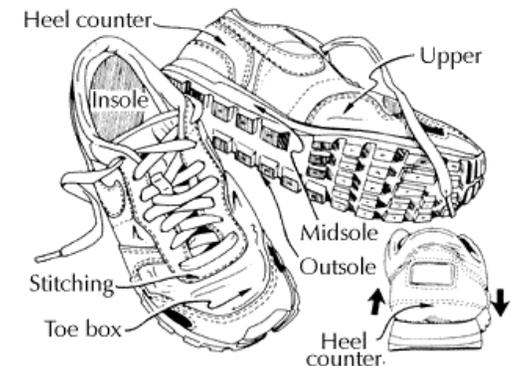
step towards a safe and comfortable shoe. An easy way to determine this is by wetting the bottom of your feet and then walking on a dry surface.



- Normal Arch: narrow band connecting heel and ball of foot
- High Arch (pes cavus): two unconnected areas - the heel and the forefoot
- Flat Arch (pes planus): complete footprint with a wide band connecting the heel and the forefoot

About 25% of the population needs some kind of specialized shoe.

Those with high arches need a cushioned shoe because their arch is rigid and inflexible. A flat arch is best supported with a motion-controlled shoe because the arch



is too flexible. A normal arch is usually most comfortable with a stability shoe.

If you participate in a certain sport or exercise three or more times a week, you should wear a shoe designed for that activity.

- Aerobics: impact-absorbing cushioning
- Walking/Running: extra shock absorption at the heel and soles that provide good roll of the toes
- Court Sports: a shoe that will keep the ankle stable during side-to-side movements, thus the sole can't be too thick

When shopping for your new athletic shoes:

- Have your feet measured at their largest, such as at the end of the day or after a workout
- Wear your workout socks
- Have both feet measured because sizes vary from different manufacturers
- Try on both shoes
- Try on several pairs
- Ensure one thumb width space from the longest toe to the end of the toe box
- Go to a shoe store with a good reputation
- Keep the shoe on your foot for at least 10 minutes to make sure it remains comfortable



When is it time to get new shoes?

After 300 to 500 miles the cushioning on most shoes wears out. Thus if you are a runner that does about 20 miles a week, your shoes should be replaced by week 20 to 25. The pair of shoes with all the miles could still be useful for casual wear, but they could contribute to injury if there use during exercise is continued. Another way to determine if new shoes are needed is by checking for excessive wear.

The back of the shoes should stand upright, not slanted.

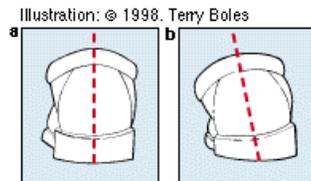


Figure 1. One sign of shoe wear is whether a used shoe stands upright when viewed from behind (a). A shoe that tilts inward, or medially (b), may be a sign that your foot has a structural imbalance called overpronation.

The shoe can be the culprit of many low extremity running and exercise injuries. Thus their selective purchase is necessary and should not be overlooked. As stated earlier, proper athletic shoe selection is a great way to practice injury prevention.

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References:

www.hughston.com/hha/a.shoes.htm
www.physsportsmed.com/issues/1997/09sep/martinpa.htm



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